

CLAIMS

1. A method of wireless communication comprising:

5 evaluating a reverse link loading by examining at least two resources within a first time period; and

broadcasting an availability of resources message in response to the evaluated reverse link loading.

10 2. The method of Claim 1, wherein the step of examining comprises at least one of:

examining the at least two resources in use; and

15 examining the at least two resources leftover.

3. The method of Claim 2, wherein the at least two resources examined comprise at least one a sector loading, total interference, received signal strength indication rise, per-leg and per-call frame error rate, physical channel erasure statistics and distributions, filtered loading estimate, transmit power
20 and power control outer-loop set point compared to received E_{cp}/N_t .

4. The method of Claim 3, wherein

25 the step of evaluating a reverse link loading comprises computing the sector loading by measuring energy in a pilot signal over total noise, DRC values, channel gain and used Walsh code space; and

the received signal strength indication rise corresponds with a total received power at a sector, with a noise floor and with a threshold that varies to minimize adverse control reactions.

5 5. The method of Claim 4, comprising:

sampling a received signal strength indication; and

10 calculating a noise floor and the received signal strength indication rise
in response to the sampling received signal strength indication.

6. The method of Claim 4, wherein changing a longest idle user to at least one of inactive status and dormant status if a sector state is above a slow control threshold.

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7. The method of Claim 6, wherein at least one of:

inactivating a user with a maximum number of bytes transferred if all users are active; and

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changing an access resistance timer if all users are not at least one of active idle and having a maximum number of bytes transferred.

8. The method of Claim 7, wherein the access resistance timer determines
25 if subsequent access attempts by a user after a previous attempt failed.

9. The method of Claim 3, wherein the availability of resources message corresponds with at least one of an overload condition, increasing a number of active connections, maintaining the number of active connections, decreasing the number of active connections, increasing an available transmit rate, maintaining the available transmit rate and decreasing the available transmit rate.

10. The method of Claim 9, wherein the availability of resources message comprises a reverse activity bit.

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11. The method of Claim 9, comprising controlling the reverse link by at least one of:

managing a traffic channel in response to an average of the received signal strength indication rise and the filtered loading estimate; and

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managing the number of active connections in response to the average of the received signal strength indication rise and the filtered loading estimate.

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12. The method of Claim 9, comprising:

determining an available transmit rate in response to examining the at least two resources associated with the reverse link within a second time period, the second time period being an order of magnitude greater than the first time period.

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13. A wireless communication system comprising:

a detector for evaluating a reverse link loading by examining at least two resources within a first time period; and

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a controller for controlling the reverse link loading by broadcasting an availability of resources message in response to the evaluated reverse link loading.

10 14. The wireless communication system of Claim 13, wherein

the detector performs at least one of examining the resources in use within the first time period and examining the resources leftover within the first time period, and

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the at least two resources examined comprise at least one a sector loading, total interference, received signal strength indication rise, local and global frame error rate and distribution, filtered loading estimate, transmit power, received E_{cp}/N_t , received E_b/N_t , and power control outer-loop set point.

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15. The wireless communication system of Claim 14, wherein

the detector computes the sector loading by measuring energy in a pilot signal over total noise, DRC values, channel gain and used Walsh code space; and

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the received signal strength indication rise corresponds with a total received power at a sector, with a noise floor and with a threshold that varies to minimize adverse control reactions.

5 16. The wireless communication system of Claim 15, comprising:

a sampler for sampling a received signal strength indication; and

10 a calculator for calculating a noise floor and the received signal strength indication rise in response to the sampling received signal strength indication.

17. The wireless communication system of Claim 14, the availability of resources message corresponds with at least one of an overload condition,
15 increasing a number of active connections, decreasing the number of active connections, increasing an available transmit rate, maintaining the available transmit rate and decreasing the available transmit rate.

18. The wireless communication system of Claim 17, wherein the
20 availability of resources message comprises a reverse activity bit.

19. The wireless communication system of Claim 17, comprising:

a controller for managing the reverse link by at least one of:

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controlling a traffic channel transmission rate in response to a relatively short term average of the received signal strength indication rise and the filtered loading estimate; and

controlling the number of active connections in response to a relatively long term average of the received signal strength indication rise and the filtered loading estimate.

5 20. The wireless communication system of Claim 17, wherein the detector determines an available transmit rate in response to examining the at least two resources associated with the reverse link within a second time period, the second time period being an order of magnitude greater than the first time period.

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21. A method of wireless communication over a reverse link comprising:

determining a loading on the reverse link; and

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managing the reverse link loading in response to the determined reverse link loading by at least one of controlling a traffic channel data rate and controlling a number of active connections.

22. The method of Claim 21, comprising:

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broadcasting an availability of resources message in response to the determined reverse link loading.

23. The method of Claim 22, wherein the step of controlling a traffic
25 channel comprises a relatively faster control of the traffic channel and the step of controlling a number of active connections comprises a relatively slower control.

24. The method of Claim 23, wherein the managing the reverse link loading is performed in response to an average of a rise in a received signal strength indication and filtered loading estimation, the average comprising at least one of a relatively shorter term and a relatively longer term average.

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25. The method of Claim 22, wherein the step of determining a loading on the reverse link comprises:

sampling the received signal strength indication; and

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calculating a noise floor and the rise in the signal strength indication in response to the sampling of the received signal strength indication.